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ROCHESTER

— Minnesota —

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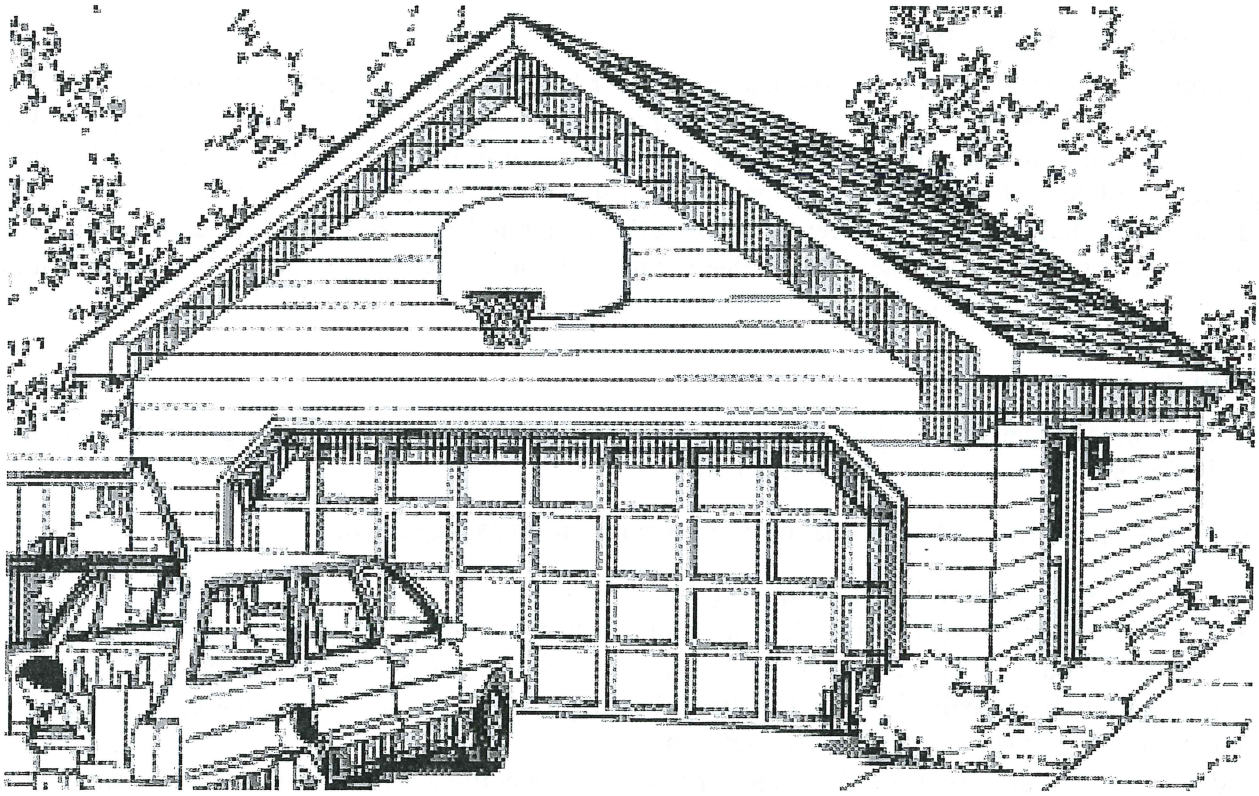
Detached Garage

Private Garages

Based on the 2015 Minnesota State Building Code



MR = Minnesota State Building Code extracted from 2015 Minnesota Rules
IRC = International Residential Code
NEC = National Electrical Code

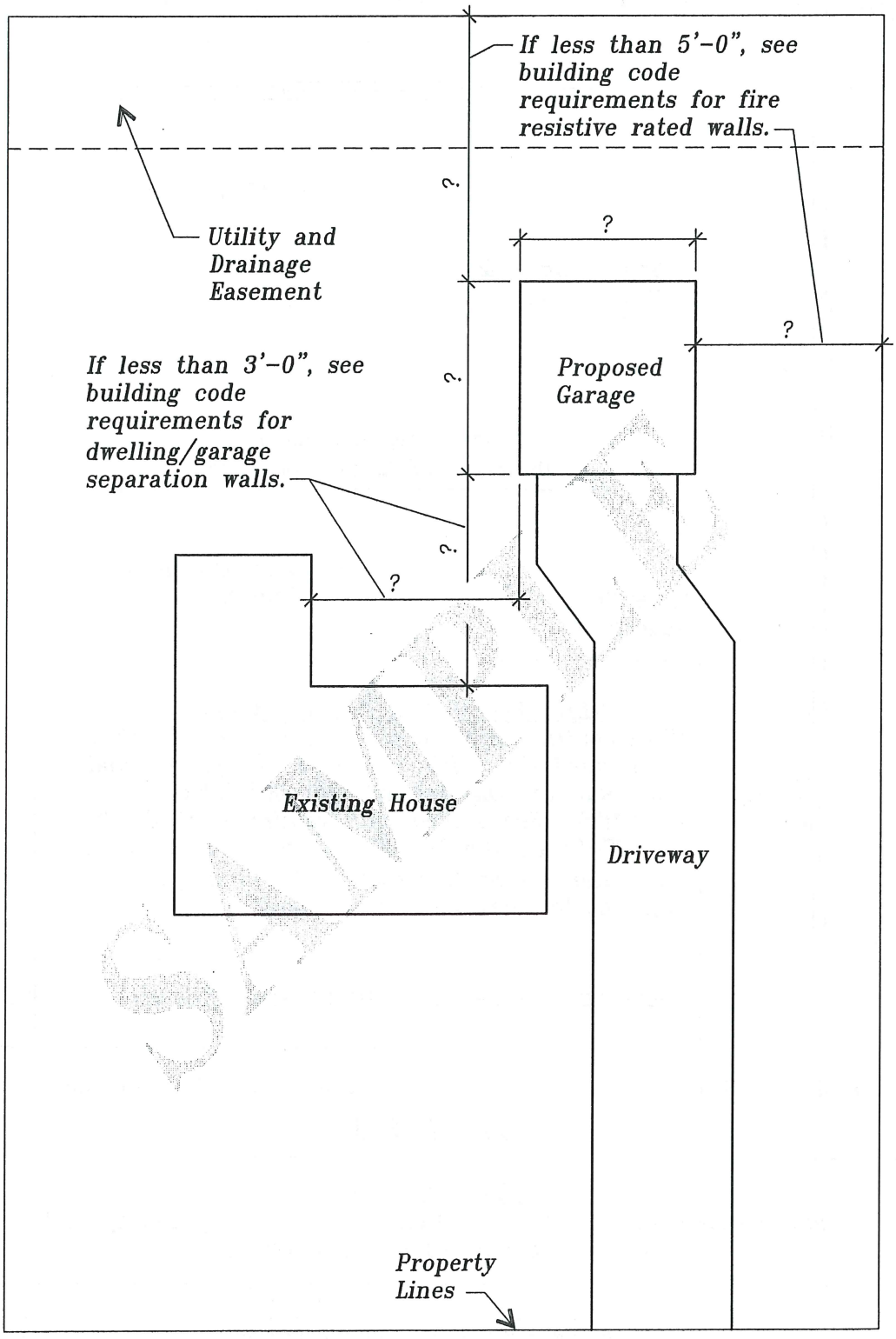
A. A floor plan including the following: (see sample plan on page 5)
   1. Proposed size of garage.
   2. Location and size of window and door openings.
   3. Size of headers above garage doors (see header table on page 8).
   4. Size, spacing and direction of roof framing.

B. A section drawing indicating the following: (see sample plan on page 7)
   1. Height of wall from slab to top plate.
   2. Height of wall studs from bottom plate to top plate.
   3. Size and depth of footings.
   4. Floor design and material.
   5. Wall and roof construction. Include sheathing type/thickness and fastener information.
   6. Type (grade & species) of lumber to be used.
   7. Slab and foundation detail including reinforcing, if any.

Building Code Requirements:

- A slab-on-grade may be used for the foundation support of detached garages on all soils except peat and muck. Sod, root and other organic materials must be removed. The perimeter of the slab must be thickened to a minimum vertical dimension of 8" at the edge with a minimum 6" grade separation along the exterior from wood framing and siding. The bottom of the thickened edge must be at least 12" wide and then may be sloped upward at a 45 degree angle to meet the bottom of the slab. The minimum slab thickness must be 3-1/2". The minimum concrete strength is required to be 3500 pounds per square inch (see sample plan on page 7). MR 1303.1600 Subp. 2 & IRC R506
- Foundation plates or sills must be bolted to the foundation with not less than 1/2" diameter steel bolts embedded at least 7" into the concrete and spaced not more than 6'-0" apart. Other approved sill plate anchors may be used. There must be a minimum of two bolts or anchors per piece with one bolt or anchor located within 12" of each end of each piece. R403.1.6 Mn Amendment
- Sills and sleepers on a concrete slab or masonry that are in direct contact with the ground must be separated from such slab by an impervious moisture barrier or be an approved species and grade of lumber, pressure treated or decay-resistant heartwood of redwood, black locust, or cedars. Sills shall have a width not less than that of the wall studs. IRC R317
- Studs must be placed with their wide dimension perpendicular to the wall, and not less than three studs must be installed at each corner of an exterior wall. Typical wall framing is 2"x4" studs spaced @ 16" on center. Alternate framing with a stud spacing of 24" on center will require additional construction methods for top plates and wall sheathing. IRC R602
- Wood stud walls shall be capped with double or triple top plates depending on wall stud spacing and installed to provide overlapping at corners and intersections with bearing partitions. End joints in top plates shall be offset at least 24". IRC R602.3.2
- Braced wall lines shall be provided with minimum 48 inch wide braced wall panels located not more than 10 feet from end of braced wall line and spaced not more than 20 feet apart. The required width of braced wall panels may be reduced depending on the wall sheathing material and/or wall bracing method. IRC R602.10
- Approved wall sheathing and siding must be installed according to the manufacturer's specifications. IRC R703
- Roof sheathing and roof coverings must be installed according to manufacturer's specifications. IRC R903
- If permanent heat is provided then additional code requirements such as insulation/vapor barrier in walls and ceilings, vapor retarders and insulation below floor slab and ice protection at roof eaves may be required.

SAMPLE SITE PLAN



Note:

Show any additional structures that exist on the property (i.e. Pool, Shed etc.)

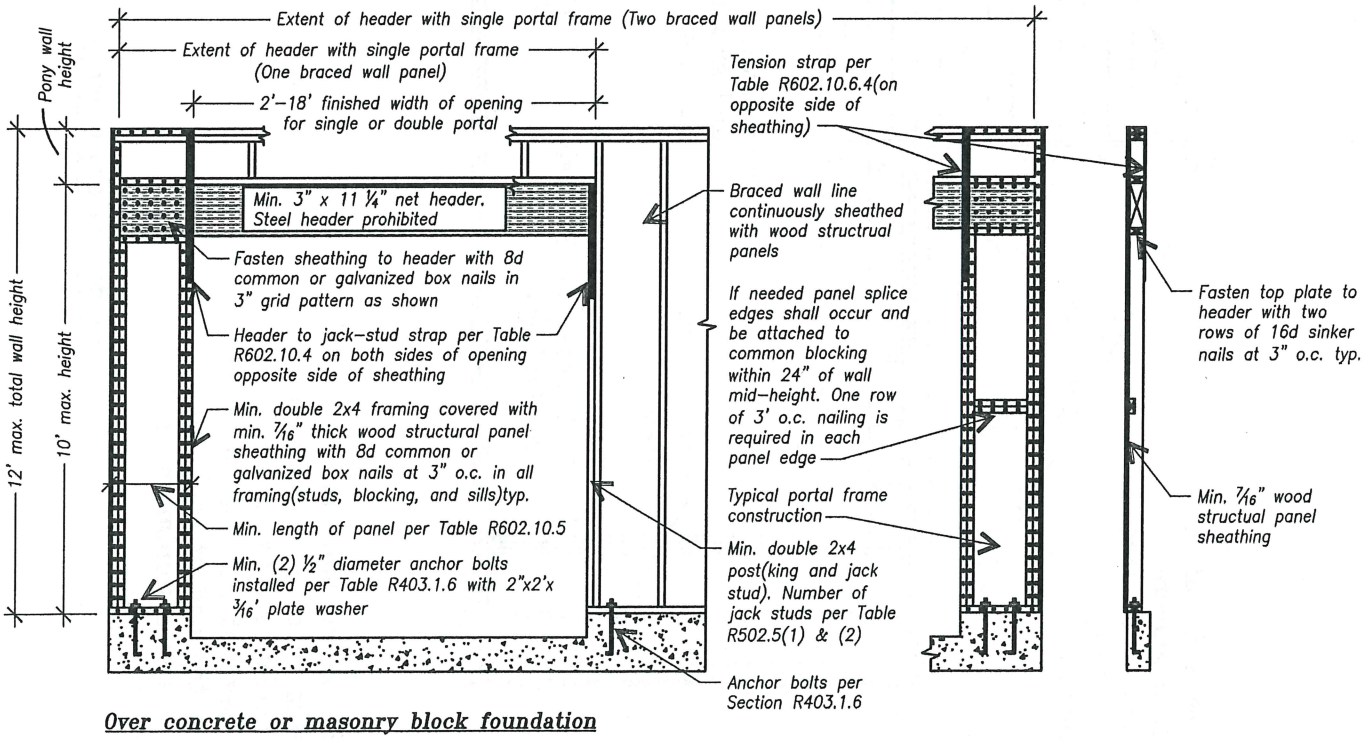
CS–PF Method [a,b]

(Continuously Sheathed Portal Frame)

Based on IRC Tables R602.10.4, R602.10.5 and Section/Figure R602.10.6.4

	Wall Height				
	8–foot wall	*9–foot wall*	*10–foot wall*	*11–foot wall*	*12–foot wall*
Minimum Length(inches) of Braced Wall Panel [c]	*16*	*18*	*20*	*22* [d]	*24* [d]

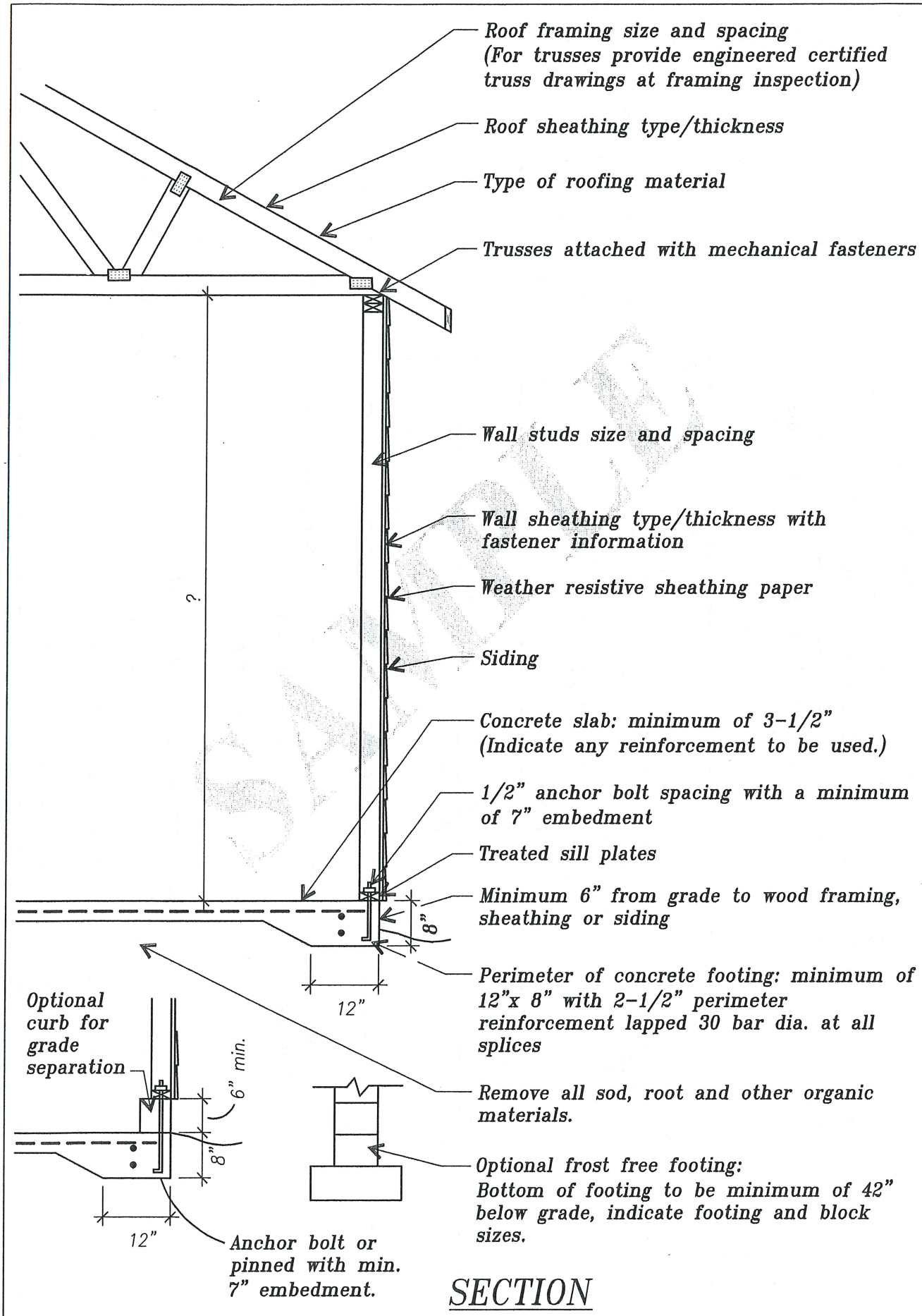
a. CS–PF braced wall panel shall be constructed in accordance with Figure R602.10.6.4. See CS–PF detail for construction requirements.
b. The number of continuously sheathed portal framed panels in a single braced wall line shall not exceed four.
c. Linear interpolation shall be permitted.
d. Maximum opening height for CS–PF is 10 feet in accordance with Figure R602.10.6.4, but wall height may be increased to 12 feet with pony wall. See CS–PF detail below.



Over concrete or masonry block foundation

Front Elevation ***Section***

CS–PF Detail


Roof framing size and spacing
(For trusses provide engineered certified truss drawings at framing inspection)
Roof sheathing type/thickness
Type of roofing material
Trusses attached with mechanical fasteners
Wall studs size and spacing
Wall sheathing type/thickness with fastener information
Weather resistive sheathing paper
Siding
Concrete slab: minimum of 3-1/2" (Indicate any reinforcement to be used.)
1/2" anchor bolt spacing with a minimum of 7" embedment
Treated sill plates
Minimum 6" from grade to wood framing, sheathing or siding
Perimeter of concrete footing: minimum of 12"x 8" with 2-1/2" perimeter reinforcement lapped 30 bar dia. at all splices
Remove all sod, root and other organic materials.
Optional frost free footing: Bottom of footing to be minimum of 42" below grade, indicate footing and block sizes.
?
8"
12"
Optional curb for grade separation
6" min.
8"
12"
Anchor bolt or pinned with min. 7" embedment.

SECTION

Special Conditions / Recommendations

STEM WALL ON DETACHED SLAB ON GRADE FLOORS

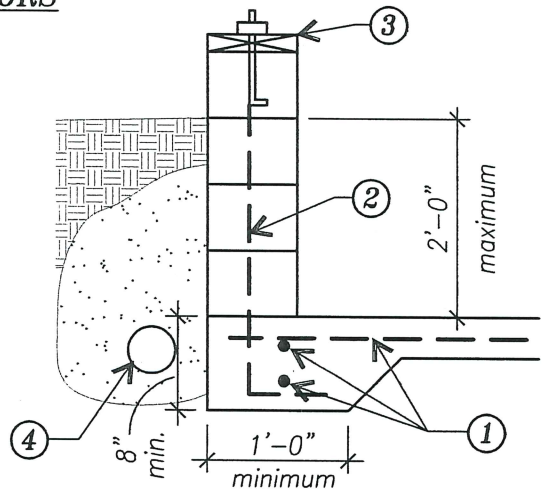
for maximum grade of 2'–0" above slab

(1) *Perimeter: (2) 1/2" reinforcing*
Slab floor: two way grid of 3/8" reinforcing 2'–0" o.c.

(2) *1/2" vertical reinforcing 2'–0" o.c. hooked into slab and grouted block. 4 course (max) 8" (min) block with 3 courses retaining soil over 12" x 8" perimeter footing.*

(3) *Treated bottom plate minimum anchorage: 1/2" anchor embedded 7" and not more than 6'–0" o.c. or 1'–0" from ends. and there shall be a minimum of 2 anchors per wall piece.*

(4) *4" perimeter drain tile to daylight. 1'–0" minimum pearock fill.*



DROP WALL WITH SLAB ON GRADE

for maximum grade of 2'–6" below top of slab

(1) *Maximum of 2'–6" above grade with a minimum of 6" embedment. (see detail)*

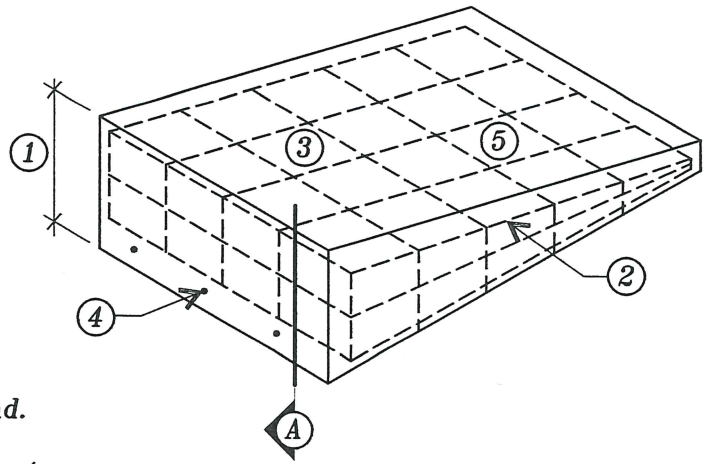
(2) *Perimeter: (3) 1/2" reinforcing horizontal. Drop walls: 12" thick. 1/2" reinforcing drops at 2'–0" o.c. tied to each horizontal reinforcing. Continuous corners and overlap reinforcing 1'–8" in slab.*

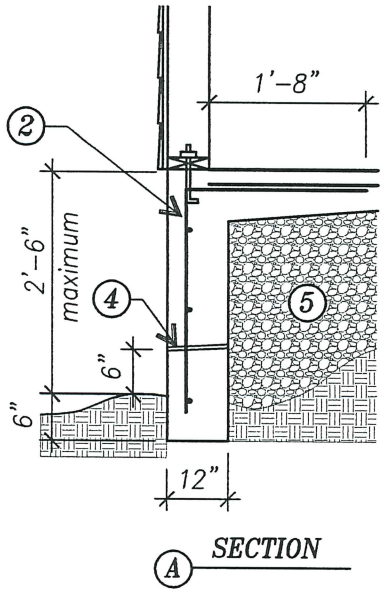
(3) *Slab floor (minimum 3 1/2"): two-way grid of 3/8" reinforcing 2'–0" o.c., Minimum 3500 pounds per square inch air entrained concrete.*

(4) *Weep holes: 1/2" screened tubes at 6'–0" o.c. cast in back wall, 6" above grade.*

(5) *Fill material: 6" lifts of compacted gravel or sand.*

NOTE: Remove all sod and organic materials prior to concrete pour.





A SECTION